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THE TORQUE·TUBE

THE NEWS PUBLICATION FOR MEMBERS OF THE 1937-1938 BUICK CLUB • FOUNDED 1980

Volume IV · Number 8

THE TORQUE·TUBE

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VOL. IV • June 1986 • NO. 8

• William E. Olson, Editor •

• 842 Mission Hills Lane, Worthington, Ohio 43085 •

ONE-YEAR MEMBERSHIPS EXPIRE AUGUST 31

Just a reminder -- gentle at this point -- that all one-year memberships will expire on August 31, 1986. There are no exceptions to this. Those of you who joined for two or three years -- thanks again for this vote of confidence -- will obviously not need to renew, but for everybody else, no payment, no TORQUE TUBE.

Despite all the screaming and yelling in these pages last year, many people forgot to renew and did not wake up until they'd missed several issues. I will not name names, you know who you are. It's mildly exasperating to get notes in December, or January, or even April, saying "Did my membership expire?" Such notes invariably produce in the Editor's mind the following thought: "Fergodsake, buddy, don't you read the #%?¢!!! I write?" However, I have tried to be philosophical and indulgent about it.

This year I have decided to do something different. Instead of black-letter harangues, I am going to mail to every expiring member one bill.

IN JULY YOU WILL RECEIVE A BILL, STATEMENT, INVOICE OR WHATEVER I DECIDE TO CALL IT. THAT IS THE ONLY ONE YOU WILL GET. PAY IT!

It seems to me that people are more used to paying, or renewing, if they have a bill to pay. Maybe you will all give these bills to your wives, who will crank out the checks along with the phone bill and the gas bill. (In fact, about half the checks I've received in the past were written by the wives.) I hope so.

Bill

FOUNDED BY  DAVE LEWIS

Cover Car

Hail the bridegroom!
Hail the bride!
When the nuptial knot is tied...

With this little quote from Act I of Gilbert and Sullivan's Ruddigore, we show you Bruce Sackman's 1938 Limited on the job at a Long Island wedding. Some of you will no doubt recall that Bruce runs a limo service in Massapequa, New York featuring some classic -- and classy -- automobiles. What could be more appropriate for June than a beautiful bride, a manly groom, and the classic lines of a 1938 Buick. Although love has been known to fade -- a fate I hope does not await our anonymous but charming couple -- the appeal of a 1938 Limited is timeless.

Editor's Opinion: Tomorrow's Antiques?

A few months ago, I got into a discussion with one of my fellow BCA chapter members. The subject: what 1986 cars will be the "antiques," or "classics" or "collectible cars" of the next generation? My position was (and is) a simple one: none. And the reason is likewise a simple one: there won't be any of them left. Or, if there are any left, they'll be "display models" only, because nobody will be able to restore them, or repair them, or make them work.

Anybody who has been to a hospital -- or even a doctor's office -- or has a baby, or shaves, knows we live in an age of disposable items.

With current "Detroit Iron" we have reached a new and frightening pinnacle of disposability in the Throw-it-Away Age: the Fifteen Thousand Dollar and Up Disposable Automobile.

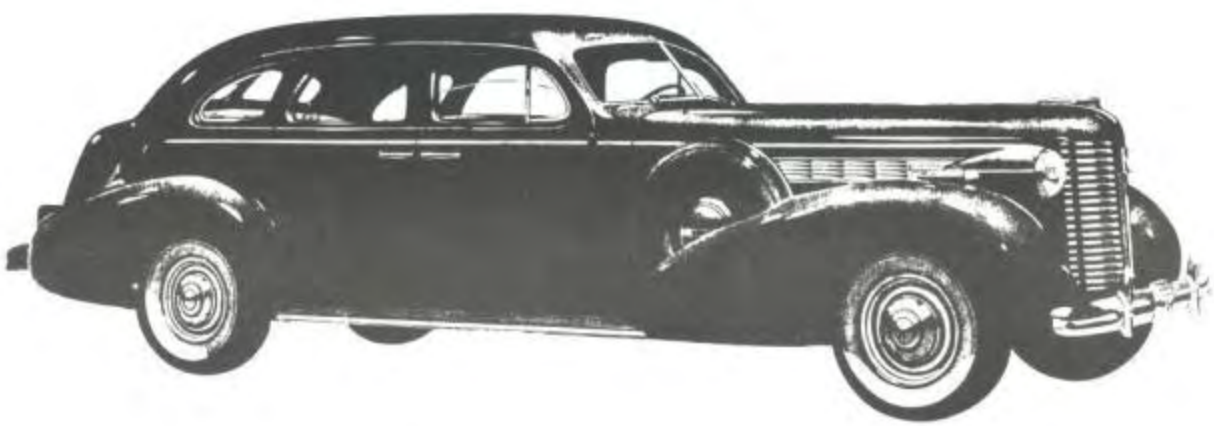
People don't think they are buying a disposable item, like a box of Pampers or a two-liter jug of Dr. Pepper. But they are, and they are going to find out sooner or later. When they find out that these trendy, high-tech, state-of-the-art machines can be repaired, if at all, only at grossly exorbitant prices, by only a handful of establishments, with only unpredictable results, they are going to kiss them off just as soon as, if not before, the payments are over. As used cars they will be dogs, and go to early graves.

What will people do with a five-year-old car wherein it costs well over $1,000 to replace the fuel delivery and ignition system because nobody can figure out how to repair them? Where body damage repair costs more than the car is worth because you have to replace half the car and need a hundred thousand dollar laser machine to do it? Where there's a $400 labor charge to replace a fuel pump because you have to pull the engine to get at it? Where a busted speedometer means several hundred dollars -- maybe more -- for a new electronic digital information display? I think they'll throw up their hands, trash the cars, and go for another round of the latest high-tech and crushing car payments, while the bankers smile.

Do I exaggerate? Time will tell, but now you know at least some of the reasons why I just spent $2,500 to put a new engine and transmission in my '79 LeSabre, a car I love dearly. And why I will probably put a few thousand more into a paint job and a new interior next year. It's rolled 106,000 miles -- some 60,000 of which have been in the two and a half years since I bought it for $5,500 -- and I see no reason why it can't roll another 106,000 and maybe more. It's bad enough, with its mysterious tangle of vacuum hoses, but I feel confident that, by and large, I understand it, that my mechanics can fix it, and that it has the inherent power to last. I don't feel that way about 1986 cars, excepting maybe a few on the fringes of respectability, like the VW diesel.

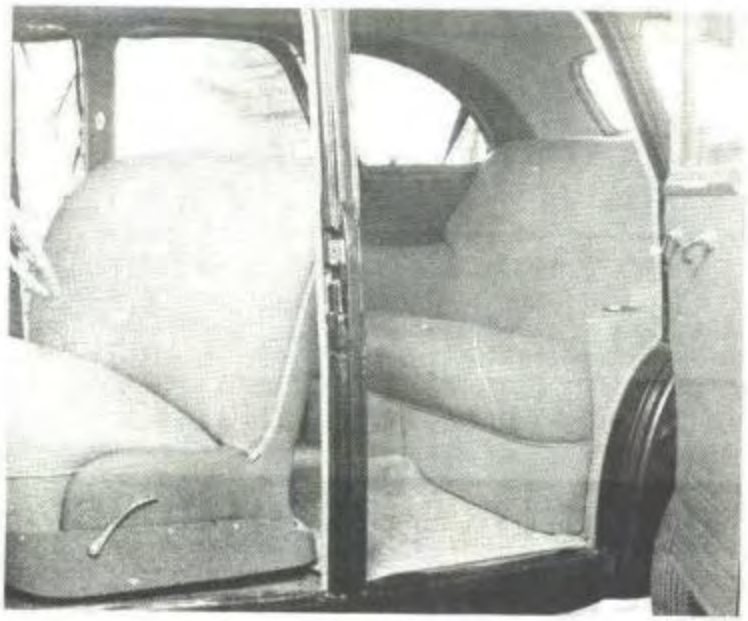
The average guy today won't do what I did. He doesn't even know how to go about having a new (actually it was a factory rebuilt) engine put in, or where to go to do it, or what to ask for, or how to oversee the work as I did. And he doesn't trust mechanics, and he doesn't have $2,500 and maybe his banker won't lend it to him, although the banker or a new car dealer would be happy to make a new car loan, or <u>lease</u> him a new car. And he's in trouble.

Bill



Restorations Go Easier

HAMPTON COACH & BUICK



Complete your restoration with an authentic Buick Interior from Hampton Coach. Each kit made in our own upholstery shop to original specs using only the finest fabrics and materials.

Panel Kits, Headlining Kits and Seat Upholstery Kits come complete, ready to install.

We presently have kits for the following popular Buicks from 1936 to 1940 and are in the process of adding many more.

1936 Model Business Coupe
1937 Model 41 4-Door Trunk Back Sedan
1938 Model 41 4-Door Trunk Back Sedan
1939 Model 41 4-Door Trunk Back Sedan
1940 Model 41 4-Door Trunk Back Sedan

Guaranteed Quality & Fit

Write or call today for free literature including samples and prices. Please be sure to include year and model of your Buick along with your request.

Hampton Coach Inc.

Vintage Buick Upholstery Kits

70 HIGH STREET P.O. BOX 665 HAMPTON, NH 03842 603-926-6341

★ Good News! ★

NEW UPHOLSTERY KITS ARE NOW AVAILABLE

Hampton Coach, Inc. has just announced a new line of upholstery kits for pre-war Buicks. As indicated in their ad in this issue, kits for 1937 and 1938 Special touring sedans (model 41) are now available, and more models may be added. The 1937 kit was developed from the original interior of a car loaned to Hampton by Club member Gene Slusser (#005), an arrangement originally put in motion by yours truly.

Hampton Coach has been known for some time for an excellent line of Chevrolet kits, and we welcome them into the Buick family. I have seen a sample of the Buick kits, and I can tell you they look terrific: good fabric, very well made; all the pieces you can think of plus some you probably would not have thought of; plus several pages of very clear and easy to follow instructions. With material and workmanship of this quality, all the really hard work already done for you, and these instructions, I can't see how anyone who is halfway handy can fail to achieve a really first-class interior, at a cost far less than a custom job.

To me, this is a dream come true, and I hope to see more and more Hampton interiors in our cars over the months and years to come.

The Club will continue to work with Hampton Coach to develop kits for other models, if there is enough demand, and patterns can be obtained. Please let me know what you'd like to see, and how you can help.

Trunk interior kits are also available, or will be soon. I have not seen these, but am told by Bill Vickers, president of Hampton, that they duplicate the original very closely.

I will have with me at Indianapolis a sample kit containing almost all of the parts for a 1938 model 41. Please look for me and ask to see it.

Bill

PURSUIT and more PURSUIT

FIRST, by Jimmie Hair -- Dalton, Georgia

A good many years ago our car club went to Gatlinburg, Tennessee on a weekend trip to a car show sponsored by the Tennessee Region. At this show was a 1940 maroon convertible sedan that just drove me up the wall. Well, I drove it and bought it and took it home to some very enjoyable times. That purchase led to a great trip to upper New York State and a 1940 twin side mount sedan. My boys were quite small at that time, and riding down Fifth Avenue in New York City with our heads out the window looking at the buildings was something. The twin side mounts went on the convertible sedan and turned out quite well. We took her lots of places with the car club.

Those fond memories came back to me several months ago after letting our old reliable Packard go. We needed another tour car.

A lot of talking and considering went on until I was sure we needed another Buick to fill this need. In thinking about the year to get, a '37, '39 and '40 were my picks, so my search started for my phantom Buick.

I found a 1939 Buick up in Kentucky with hardly any miles, all original. I phoned three or four times a day for over a week before reaching the owner to find out the first person that called bought it sight unseen. After listening to him talk about the car I think I would have done the same. Then I found this '37 twin side mount coupe in New York City. After about a month of phone calls and trying to get a cheaper flight, I went to see this one. It was a very fine car, but still needed a lot of cosmetics to be what I wanted, so back on the plane with one day and plane fare lost.

When Hemmings next issue came in there was a '37 Buick Special with twin side mounts up in Virginia for sale. Low mileage, original upholstery and paint got me as excited as Christmas morning and this one was practically in our back yard. You know it takes a lot of phone calls to get the full description imbedded on my brain, but with pictures to help I decided "This is the one." Preparation to hit the road was close at hand.

We decided to be ready for an early start Sunday morning. Saturday afternoon my wife Lois took a virus and by evening she was laid out on the sofa looking like the end was near.

I knew our trip was over before it started, but come Sunday morning (with a little prompting), Lois said she thought the worst was over. The trailer was already hooked up and ready, so within a short time we were on the road in the search for our Buick.

Great Falls, Virginia is really the suburbs of Washington, D.C., so Monday morning we were in eight lanes of traffic pulling a trailer, and the virus hits me. I just kept thinking about that Buick and before long we were pulling into the yard and there she was shining in the sun. I sure liked her looks and of course Lois and I took her for a drive. By the time I had shifted from second back to high I knew this was the car, so with a real short trip we were back loading her on the trailer for the trip home on Tuesday.

We have taken her on one trip already and I like her more all the time. You know, old cars just has to be the most fun thing there is.

Her history went something like this: Purchased in November, 1937 by a Pennsylvania Judge (I have the money order stub for the first tag purchased), was owned by him until 1976 when he sold it to a member of the AACA. He detailed engine, cleaned under-carriage and re-chromed the bumpers. He kept the car until February, 1981 and sold it to the owner that I bought it from in March, 1985. The Buick has original paint, upholstery, odometer shows 50,400 miles and had two of original tires in the wheel wells. She came equipped with heater and defroster, radio and clock.

I am looking forward to lots of trips in our Buick and can also think of the good times in our search for her.

FIVE-PASSENGER FOUR-DOOR SEDAN

Model No. 41 Trunk back

SECOND, by Bob Pipkin -- Salem, Oregon

The article by Bob Cotant, "In Search of a Century", brings to mind my first pursuit of a Century.

It all started back in the summer of '65 when Bob Cotant was racing a '50 Olds 88 at the drag races and I was racing a '49 Olds 98. We were both winners most of the time in our respective classes at the drag races held in the beautiful Willamette Valley of western Oregon.

Late in the summer '65 an important regional drag race was held that brought in competitors from all over the northwest. A maroon '40 Buick Roadmaster came down from the state of Washington to challenge

my '49 Olds 98. Much to my dismay, the '40 Buick Roadmaster from Washington beat my '49 Olds 98 that weekend. He was found to be illegal later on, but that was no consolation to my wounded pride at the time he beat me.

I was getting bored with the drag racing activity, so I decided to go the restoration route. I was raised amoung Buicks, so why not go Buick? My Dad said, "As long as you are going to restore a Buick, get a Century!"

In the fall of '65 I took a vacation to the big sky country of Montana. Old cars were almost as thick on the streets of Missoula, Montana, as were the mosquitoes on my neck and back. I located two 1938 Buicks, a Special sedan with mounts and a Century sedan with mounts. Both cars were available for $150.00 and were complete, rust-free "drivers".

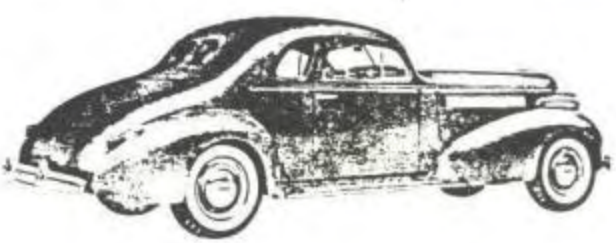
I made arrangements to come back after the '38 Century sedan with mounts in two months. When I came back after the '38 Century, the owner couldn't find the title! The license plates were expired, and I couldn't renew the license without a title. I planned on driving the '38 back to Salem, Oregon, the 650 miles, so I would need licenses, right?

While driving around the street of Missoula groveling in my grief and disappointment over losing the '38 Century, I located a 1940 Roadmaster sedan. Since I was 650 Miles from home and in the mood for taking a Buick back home, I quickly purchased the '40 Roadmaster for $150.00 cash.

After checking all the vital sign on the '40 Roadmaster, I set off on my 650 mile journey back to Salem, Oregon. My wife followed me in a support vehicle in case of trouble. The only trouble was in her crashing the El Camino into a snow bank. The '40 Roadmaster made the trip without incident, with the exception of 6 quarts of motor oil. Seems the vacuum side of the fuel pump was ruptured. Ever hear that story about dual diaphram fuel pumps on Buicks?

Two weeks after I drove the '40 Roadmaster home, I located a 1937 Century 4 door flat back in Portland, Oregon, only 50 miles away. It took no time at all for me to decide I had to have the '37 Century. After all, isn't that why I went all the way to Montana? The '37 Century was a "buy" at $165.00. The engine was freshly rebuilt and the brakes were new. The body had minimal rust and it was a good "driver" without any more major work.

I've been driving the long-nosed Centuries now for almost 21 years. It started in 1965, when Bob Cotant and I were in the drag racing sport in Oregon with Oldsmobile V-8's. Now, we are both driving '38 Buick Centuries, he in Louisiana and I in Oregon.



I was pleased that the story by Bob Cotant in Issue 7 generated this sequel by Bob Pipkin. Concerning the prices prevailing in 1965, there is little or nothing I can say that all of you haven't already thought. To add to the gloom, I'll tell you that about the same time, I sold a '56 Chevrolet for $50, and in 1960 I gave away a nice '50 Plymouth with less than 60,000 miles on it.

It's gratifying that the Club has brought these two Bobs together again, in print if not in person. Let us hope their love affairs with Buick Centuries last many more years.

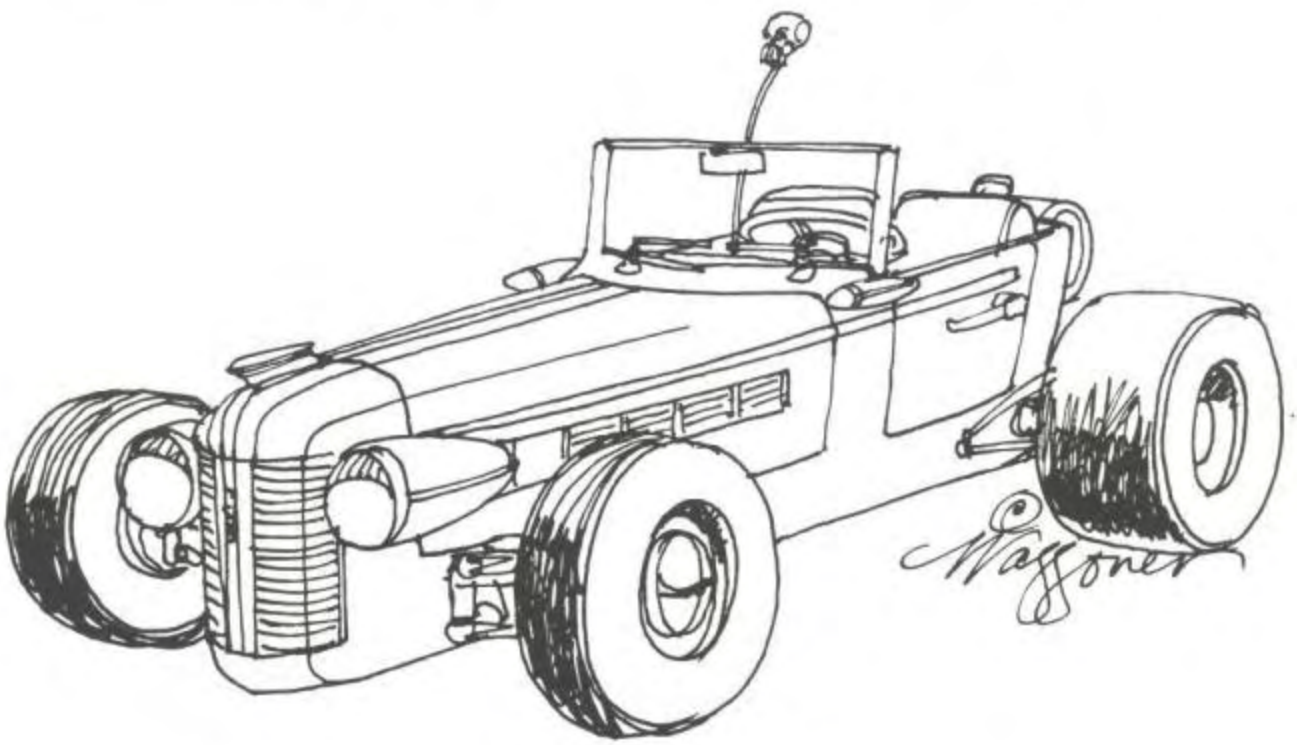
Bill

Dug's Doodles

This month, the Inscrutable Oriental Pen was given an Assignment. On the night of the last Full Moon, Dug left on his drawing board, before turning out the lights and locking the door, Nikko the Pen and the following Message:

"Tell us, O Sage, what should we do with the left-over parts of our left-over parts cars?"

The next morning, Dug entered his atelier quivering with Anticipation and Trepidation. Nikko was on the floor, plainly exhausted. Looking at the drawing board with a Wild Surmise, Dug found the drawing below. Until the moon had waned to a Slivery Crescent, Nikko would thereafter neither write, nor draw, nor bring forth the merest dot of ink. We think, however, that the waxing moon fills him with Mysterious Energies. Stay tuned.



Triumph and Tragedy

JEFF MORRIS TACKLES A TORNADO

The title from one of the volumes of Winston Churchill's History of the Second World War seemed very appropriate for these little vignettes from the life of my friend and fellow Central Ohio BCA Chapter member, Jeff Morris (#108). In addition to a very nice '38 model 41 that was once a street rod, Jeff has a variety of other cars, or parts thereof. In particular, he had in his garage a '38 business coupe, semi-disassembled, and, decorating his back yard like a piece of sculpture, another '38 41 known as the "White Tornado," so-called because sometime, somewhere, someone had covered it with white paint. The Tornado, a parts car at best, was gently moldering in the yard, and Jeff was contemplating his coupe, when Jeff's body man, not expected for several months, suddenly showed up with trailer. The body man having taken away the coupe, a great void was left in the garage, and Jeff decided that, if he could remove the Tornado's body from its frame, he could work on the frame while the body man was working on the coupe, and then, when the body man was done, Jeff would have a good frame to put the coupe body on.

So Jeff pushed the Tornado into the garage and went to work. A lot of pieces came off pretty easily, since they were falling off anyway, but the left front fender turned out to be a bit of difficulty. Bolts were real rusty, and Jeff chewed up the heads trying to get 'em off, and...well, you know how those things go. Your Editor just happened to be there with a camera to watch Jeff apply Brute Force and Bad Language.

After numerous murderous blows with a six-pound engineer's hammer and the biggest cold chisel we could find at Central Hardware, she came free, by golly, more-or-less on top of Jeff who was half-inside the fender at the time. Your Editor had been giving much verbal encouragement all the while. Jeff picked up the fender in triumph, and I thought for a moment he was going to throw it at me, 'cause maybe he hadn't liked all the encouragement. But he didn't. The fender went off in a corner with various other valuable junk, to be later taken to Jeff's "warehouse," a mysterious place where I have never been and where I think maybe Jeff's wife has never been either. (That's another story.)

Well, after all that I got to sort of idly looking over the frame of the Tornado where the fender had been. The frame had, I saw, various holes in it. Some were nice round holes, and some were not round. They were jagged and irregular. Uh, oh, I thought, should I tell him or let him find out later. Like a kid with a "secret," I could not keep quiet.

"Jeff," I said, "you have a slight problem."

"What, besides you hangin' around here givin' me a bunch of bleep?"

"Your frame's rusted through."

"Whaaaaat?"

I pointed. Jeff stuck his finger through one of the jagged holes. I left him sobbing on the garage floor.

ANOTHER GREENBRIER AD

On the page opposite, another 1938 ad featuring the Greenbrier at White Sulfur Springs, West Virginia (see back cover of Issue 7). Maybe the C&O Railroad shared the cost of these ads. The Greenbrier is still going strong -- although much more of its trade is conventions now than was the case in the 1930's -- and is a very nice, and very dignified, and very expensive place to spend a week or two. Definitely Five-Star. There are numerous natural hot springs in the area, that people for centuries have thought possess healing powers. I don't know about that, but I do know the stuff tastes awful.

IT'S A BIG BUICK SEASON AT White Sulphur

The Buick shown is the LIMITED *6-passenger sedan. You may choose from three* LIMITED *models of 140-inch wheelbase and four* ROADMASTER *models of 133-inch wheelbase. All are equipped with 141 horsepower* DYNAFLASH *valve-in-head straight-eight engines and BuiCoil* TORQUE-FREE SPRINGING.

Greenbrier's velvety greens are no smoother than Buick's fluid stride

Count the cars that roll up to the Greenbrier's tall-columned portico and you'll find that it's another big season for Buick in this smart and active spot.

For Buick's at home wherever smartly active people gather. Always dressed for the occasion, it's ever ready when the call is for stirring action. West Virginia's hills hold no terrors for its smooth-purring new DYNAFLASH engine; the rolling greens of Greenbrier's famous golf courses are no more velvety than Buick's exclusive TORQUE-FREE SPRINGING ride.

Maybe White Sulphur's on your calendar for this season — maybe some other smart resort gets your choice. Wherever you go, if you want to be in the active center of things, the word from the wise is "Better go by Buick!"

Thoroughbreds for the bridle paths — Buick for the highway

Buick

A GENERAL MOTORS VALUE

TECHNICAL TIPS

WHEEL CYLINDERS. Thanks to a tip from my friend Jeff Morris (#108) who lives down the road from me in Columbus, I have found four wheel cylinders that appear to be a perfect match for '37 and '38 40 and 60 series cylinders. I had intended to have these in my car by now, but somehow journalism (this is journalism?) and working for a living -- not to mention fixing the plumbing, etc., etc. -- have intervened. So I cannot guarantee that they work, buy they look exactly right.

NAPA United Brand

Front - 7536 and 7537
Rear - 7563 and 7564

In the fronts, the piston measures 1 1/8" not 1 3/32, but this should not make any difference. In the rears, the piston is 1" as is the original. To find these in stock, you should go to the biggest NAPA store you can find. Even though I went to the main store in Columbus, one of them had to be ordered, and this took a few weeks. (Note: early 1937 40 and 60 series cars had 1 1/16" pistons in the front, but I know of no reason the larger size cannot be substituted.) They cost about $25 each, less than the cost of having an old cylinder sleeved and buying a repair kit.

REPRODUCTION GRILLES - CAUTION

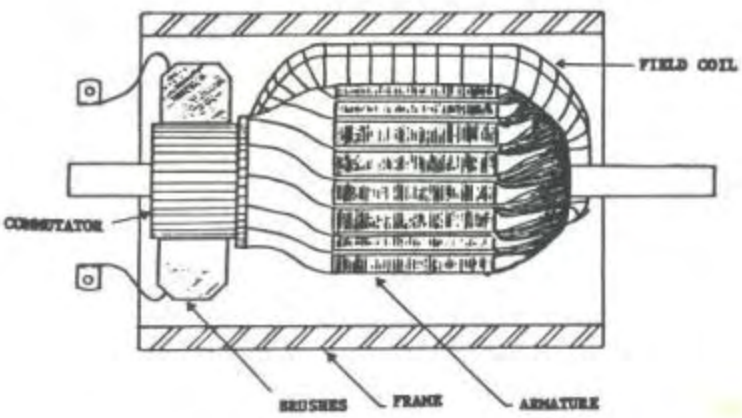
For some time, Dave and Your Editor have been wondering about the reproduction grilles sold by Rick's Antique Auto. (We're sure you've all seen Rick's ads -- you can't miss 'em.) One of our members, Bob O'Leno (#501; Los Angeles, CA) reports that he bought one, and found it considerably less than satisfactory. Besides that, he had a very difficult time returning it, and never did get all his money back. A look at a current catalog shows that Rick's has a page of very fine print in which numerous "conditions of sale" are set forth. These indicate, among other things, a complex procedure for returning items, a 15% "restocking charge," and a policy of "credit only" for returned items: no cash refunds. The Editor believes it perfectly reasonable for a firm doing a mail-order business in old car items to have some restrictions on return of merchandise. However, most firms we checked will give a full cash refund if an item is returned within a specified period of time. Members are urged to read every supplier's conditions of sale carefully before ordering merchandise from a catalog. Most businesses want you as a repeat customer, care about word-of-mouth advertising and a good reputation, and will treat you fairly. However, reasonable men may differ as to what is fair. And, let's face it, many small businesses are plagued by customers trying to "put something over" on them, so must establish some rules to protect themselves. The point is this: know the rules before you buy.

Generators and Regulators: A Mini-Course

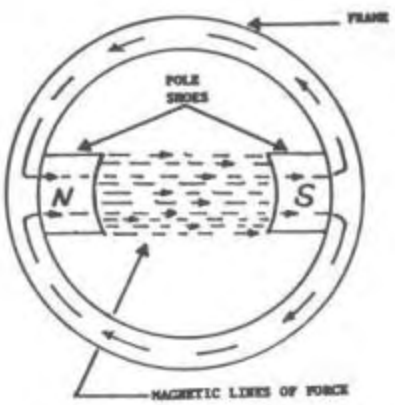
By Ron Lekse – RBR ELECTRONICS

My business is the manufacture of solid state voltage regulators and the remanufacture of generators and starters - all for collector cars, mostly from the 6 volt era. It is easier and more satisfying to sell either of these services to an owner who has some knowledge of their operation. Most old car owners are so involved with the mechanical and cosmetic restoration of their vehicles that they are content to farm-out the less familiar electrical problems. And that is fine with me, but they can probably do a better job of subcontracting, if you will, with a better understanding of the beast they are dealing with. Hence my short primer on charging systems, which I hope will be informative.

Figure 1 shows the cross-section of a typical generator. Aside from the bearings, springs, holders and fasteners, the generator is comprised of 3 primary elements, i.e., (1) Field, (2) Armature and (3) Brushes.



(FIG.1)

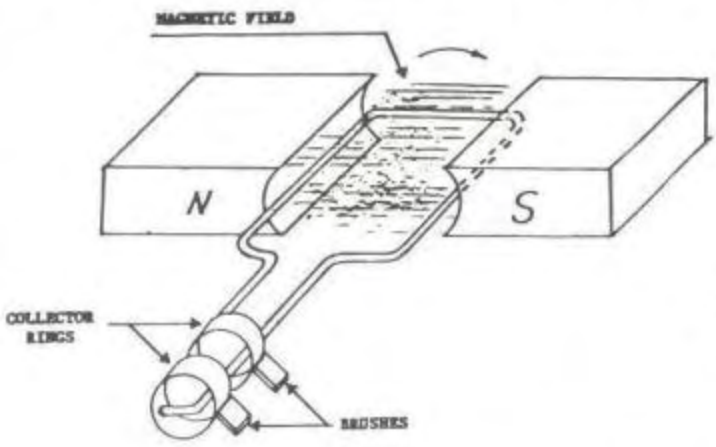


(FIG. 2)

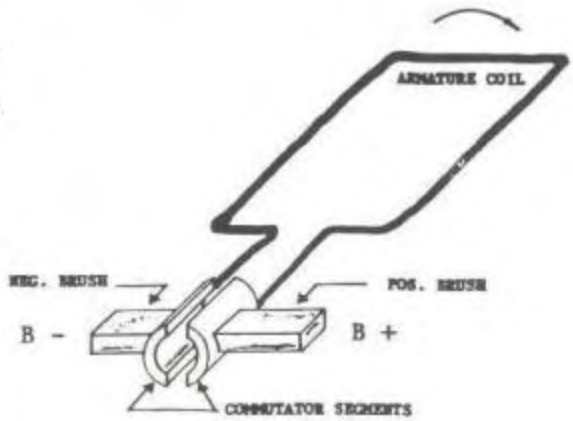
First, the field - in most automotive generators, the field consists of wire coils wound around cores of soft iron called pole shoes, which are in turn fastened to the inside of the generator housing or "frame". For simplicity we will examine a 2 pole generator with the brushes usually 180° opposite each other, as opposed to the less frequent 4 pole with brushes in a 90° configuration. The usual purpose of the latter design is charging capability at lower RPM.

Soft iron is used for pole shoes because it is easily magnitized when the surrounding wire coils are energized. Thus each pole becomes a magnet when voltage is induced to the coils, creating the invisible lines of force or "field" between them as shown in Figure 2. Polarity of each pole is determined by the direction of both the coil-winding and the current flow within. Once the pole is de-energized, the magnetic field dissipates very rapidly with only enough residual magnetism in the pole shoes to permit the generator to start charging the next time the engine is started. This is why a new generator must sometimes be polorized to make it charge after installation, i.e., the poles have no residual magnetism or polarity. Together, then, the housing and poles (or field coils) comprise the "field".

Next the armature - if we take a loop (coil) of wire, position it in the magnetic field between the poles and rotate it to cut the lines of magnetic force (field), a voltage will be induced into our loop (Figure 3). For each 180° of rotation, the ends of our loop will reverse or "alternate" polarity because they will assume the polarity of the nearest pole, (+) or (-). At this point we have an alternator similar in theory to those on later model cars.



(FIG.3)



(FIG.4)

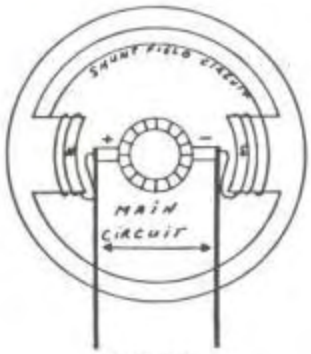
The current produced in all generators is an alternating (AC) flow of current that is "commutated" or changed to a direct (DC) flow of current by means of the commutator (Figure 4). In effect, the carbon brushes are connected to one end of the loop for ½ revolution and the other end for the next ½ revolution, so the polarity is always the same on the left and right hand brushes. With the brushes riding against the commutator, we can now call our loop of wire an "armature".

Obviously if we add more loops or coils of wire and more commutator segments, the whole process becomes more efficient. Some popular armatures have about 14 slots for coils and twice that number of commutator segments. The ends of each coil are soldered to a commutator bar or segment, each insulated from the other. In actuality the coils are overlapped, but the complexities of armature winding are not pertinent at this point. A look at Figure 1 will illustrate the above discussion. In summation, the actual voltage is produced by rotation of the armature coils cutting the magnetic "field". The more coils we have and the faster we turn them, the higher the voltage and of course the more amps or current generated.

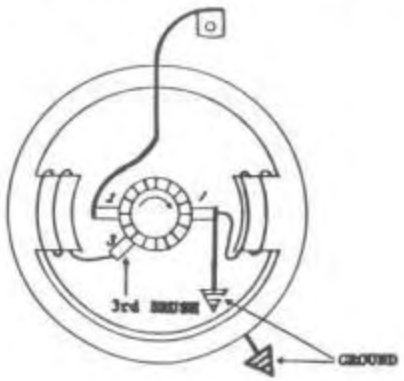
It is important to differentiate between voltage and current. Common terms for voltage are EMF (Electromotive Force) or Potential. Voltage is a pressure or force. Voltage pushes electrons through a wire as pressure pushes water through a pipe. Current, on the other hand, is the rate of flow of electrons through a wire similar to cubic feet of water per minute through a pipe. One ampere of current equals 6.3 quintillion (6.3^{18}) electrons flowing across a given point per second, the factor your dash ampmeter measures. The point being that we want to replace electrons drained from the battery as quickly as practical. A starter consumes 80 to 120 amps, lights 12 to 18, ignition 2 to 3, etc. X time of usage.

Another factor or by-product of concern here is the friction and resultant heat produced by the voltage (pressure) pushing current (flow) through the wires. Because most generators are shunt wound (Figure 5), about 10% of the current produced by the armature flows through the field windings (pole coils). As the armature turns faster, more current is produced and as the field draws some of this current, it becomes stronger. As the field gains strength, the armature produces increasing voltage and current until heat overcomes the generator with the commutator bars becoming so hot that solder holding the armature coils melts. Centrifugal force of the spinning armature throws the solder around the inside of the housing and the armature coil wires become disconnected. Therefore, the shunt wound generator must be controlled or it can eventually self-destruct!

The generator is a direct current machine and possesses the necessary parts to become a DC motor. One bench test is to "motor" the generator by connecting battery leads directly to it. Because it is a motor and is connected indirectly to the battery in the auto, the battery would run down trying to "motor" the generator when the engine was stopped. Therefore some sort of switch must be utilized to stop the current flow from the battery to the generator. Thus, the "cut-out" was devised with no other regulative purpose than to disconnect the generator from the battery. Comprised of 2 coils, springs, points and a frame, it permits voltage generated above that residual in the battery, after the car is started, to charge the battery via closed points. When generator speed is slowed or stopped and generator output voltage drops below battery voltage, the points open so the battery does not drain it's stored current into the field windings. Should the points stick open while the generator is producing substantial current, it will burn out very quickly per previous discussion. Defective cut-outs have caused more generators to find their way to the junk yard or repair shop than any other cause.



(FIG.5)



(FIG.6)

The cut-out alone will not suffice as, again, some method of regulating generator output is mandatory for generator longivity (less sustained heat) and battery life (less overcharging). The first method was the 3rd movable brush, which became very popular for several years. The theory was to connect one end of the field to the 3rd brush instead of the main brush (Figure 6). By making the added brush adjustable, the field connection to it can be moved to a different point on the commutator, thus missing some of the commutator segments so the field does not get the full current produced by the armature, in turn causing a deterioration of the field. The further the 3rd brush is moved from the main brush, the less current the generator can produce.

As generator speed increases, the magnetic field tends to twist or distort in the direction of armature rotation creating a phenomenon called armature reaction. Without getting too involved, by use of the 3rd brush, the speed of the generator rotation actually deteriorates it's own magnetic field as mentioned above. For this reason, regardless of speed, the generator will not produce more current than the 3rd brush is adjusted for. The main advantage was then fixed or constant current at high speeds. By the same token, however, the by-product of heat produced in a generator charging at a fairly high rate of 10 amps, for example, becomes a factor in longevity and performance of the component. Also, the 3rd brush design has a

tendency to charge a well charged battery at the same rate as a discharged battery, leading to overcharging. A better idea is to taper off the charging rate as the battery approaches full charge.

As time progressed, the 2 stage regulator evolved comprised of a cut-out and usually a current regulator. With the second regulating stage, a relay becomes operative when voltage reaches a high point and inserts a resistance in the field causing a voltage drop. Naturally the field becomes weaker and the generator produces less current. The advantages were protection of the generator by limiting it's maximum current while permitting a slightly higher charging rate through the third brush for higher demand from the electrical system.

There were several vibrating regulators, some for voltage and others for current. Delco built a vibrating lamp load regulator that allowed higher generator output when the lights were in use. Similarly, in 1934-5 Chevy had a resistor on the light switch that was not in series with the field when the switch was on, permitting higher voltage to be generated. There were regulators controlled by thermostats; an early Bijur generator had a thermostat built in for hot and cold weather driving. The variations were many because everyone wanted to solve the problem of not over-charging the battery, but having enough current to run the lights and accessories without burning up the generator. One set of circumstances for daytime and night driving—— or hot and cold weather, as examples.

Eventually the 3 stage regulator won out and proved to be the answer. It is comprised of a cut-out, current regulator and voltage regulator.

The cut-out has been explained. The current and voltage regulators work as a team, one to control current so the generator does not exceed it's load capabilities and the other to control voltage for optimum battery charge and life. This system worked well for many years until the advent of the alternator. The disadvantage was that, with time and use, the mechanical parts such as springs lost their tension and points became pitted. Once a mechanical regulator was out of adjustment, it was difficult to put in back to original specs. Unfortunately, the transistor did not evolve until about 1947. Had early designers been able to make use of solid state devices, certainly the electromechanical regulator would have been replaced much sooner.

The latest is a solid-state regulator utilizing state-of-the-art technology. No coils, points, springs or moving parts to wear out or deteriorate on the shelf. It will not corrode, and above all, can be used on all 2 or 3 brush generators including those that employed only a cut-out. The VR-6, for example, is totally solid-state with adjustable voltage and current limiting plus solid-state switching to replace the cut-out function.

Now that I have hopefully imparted some insight into the mysteries of the auto charging system, let me talk a bit about my services based on 20 years in electronics and former ownership of collector cars.

First, I manufacture the VR-6 solid-state regulators for 6 volt systems. I developed this item after being challenged by friends in the Ohio Chrysler Touring Club to provide something better than the antiquated mechanical cutouts and regulators that caused them to destroy 3 generators over the 1983 tour season. This product is a truly modern solid-state device that maintains a 6 volt battery at the optimum 7 + volt level, permits higher charging rates below that point and minimizes charging beyond that level to negate battery overcharging, save generator wear and reduce horsepower consumption. Did you know that a generator charging at 20 amps will appreciably slow a 2 HP single phase motor? Generator heat and horsepower consumption increase from near zero as output increases. This is particularly true of any system with a fairly constant charging rate above a certain speed. Consider the factors of generator wear, battery over-charge and horsepower effort at a constant 10 amps charging rate!

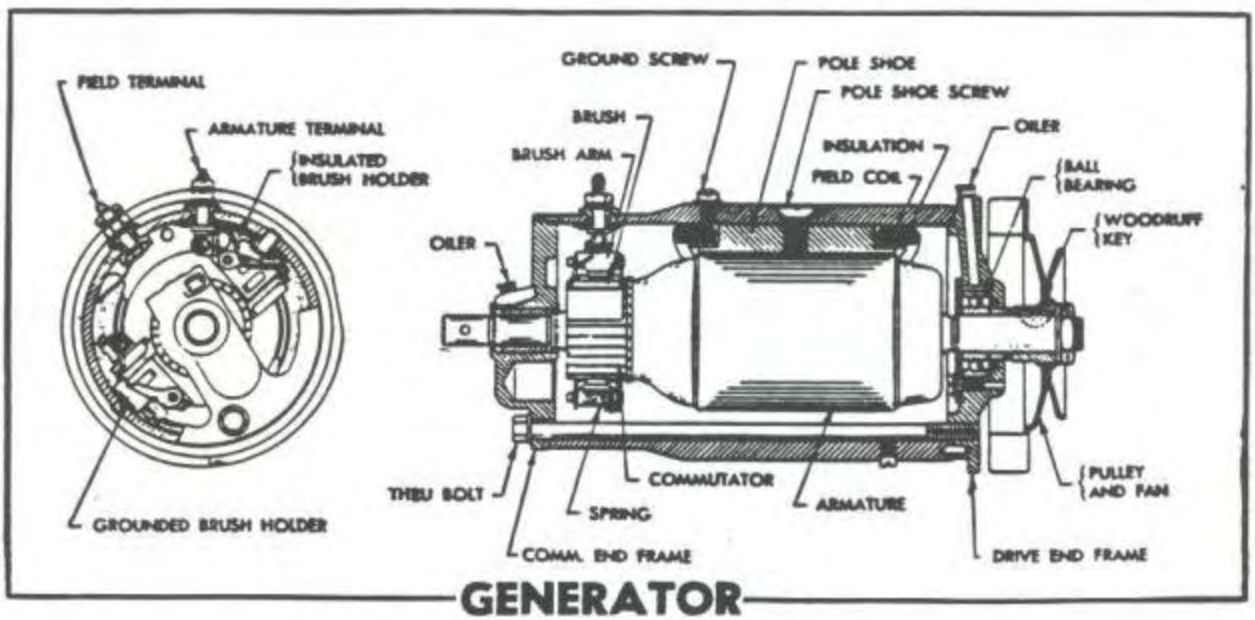
It should be noted here that this product is not to be confused with the $7 - $15 diode sold to replace the innards of a cutout. That type diode, frankly, is a 50 cent item that performs no regulative function and usually is short lived in the heated environment of a generator mounted cut-out case. In contrast, the VR-6 is comprised of sealed solid-state circuitry mounted within a heat sink and intended for hidden installation away from the hot engine compartment. Original cut-out and regulator cases and wiring remain intact for authentic appearance. Modern technology for old wheels!

A second service I provide is the custom remanufacturing of generators, alternators and starters for the collector car hobby. I am not a production repair shop with minimum repair and testing performed. I start with complete disassembly, glass bead cleaning, repainting and component testing. Field coils and armatures are reinsulated or rewound as required. Necessary machining is done and reassembly completed with new bearings, springs, brushes, holders, etc. Full testing is done across appropriate electronic equipment to insure OEM spec performance. Your component is ready to install as like-new in mechanics and appearance. Turn around time is usually less than one week and I may be able to immediately exchange popular models.

Preclude the expense and inconvenience of a road failure by having your components put into 1st class condition for many miles of trouble-free, enjoyable touring.

Call RER Electronics (Ron Lekse) at 216-585-7178 for details. My quality, guarantee and your total satisfaction are my best advertising to the hobby. You are welcome to visit my facilities as an individual or with your club. I hope my brief critique will make you a more knowledgeable owner, driver —— and customer!

Let RER help you "generate" some ———————— HAPPY MOTORING!!



GENERATOR

VR-6

SOLID STATE VOLTAGE REGULATORS for generators

GENERATORS

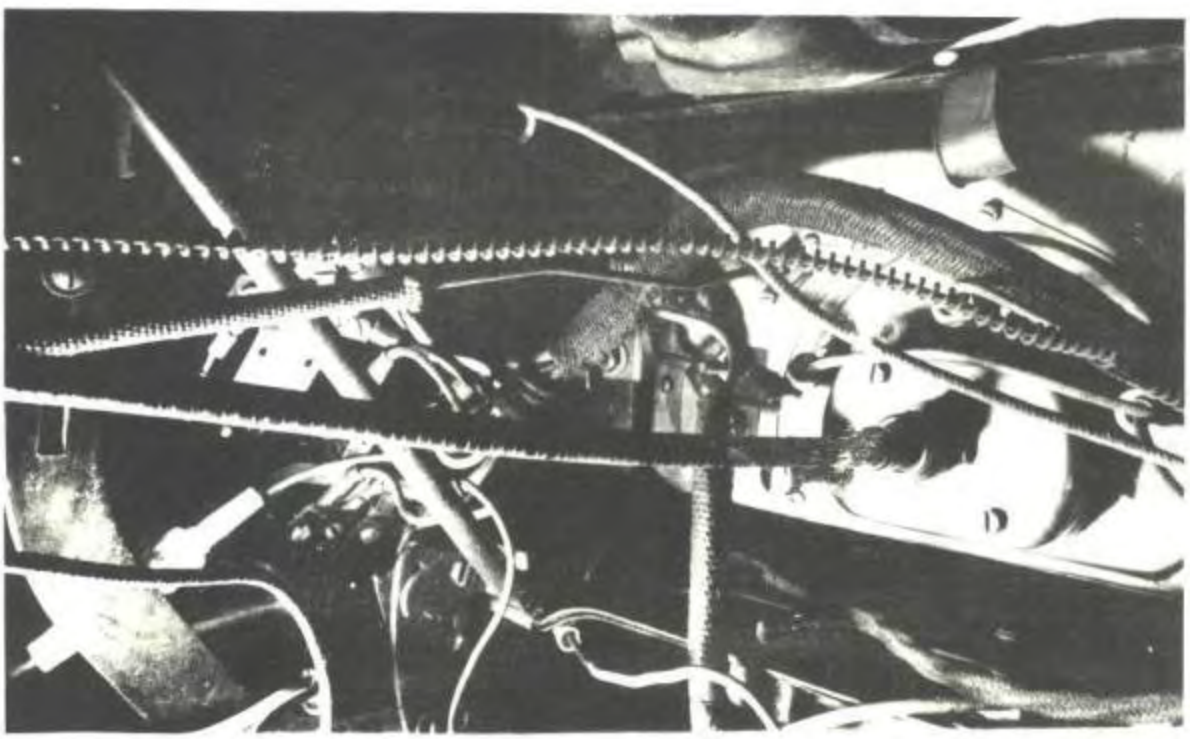
STARTERS

Speedometer Maintenance

Article and Photos by Paul Culp

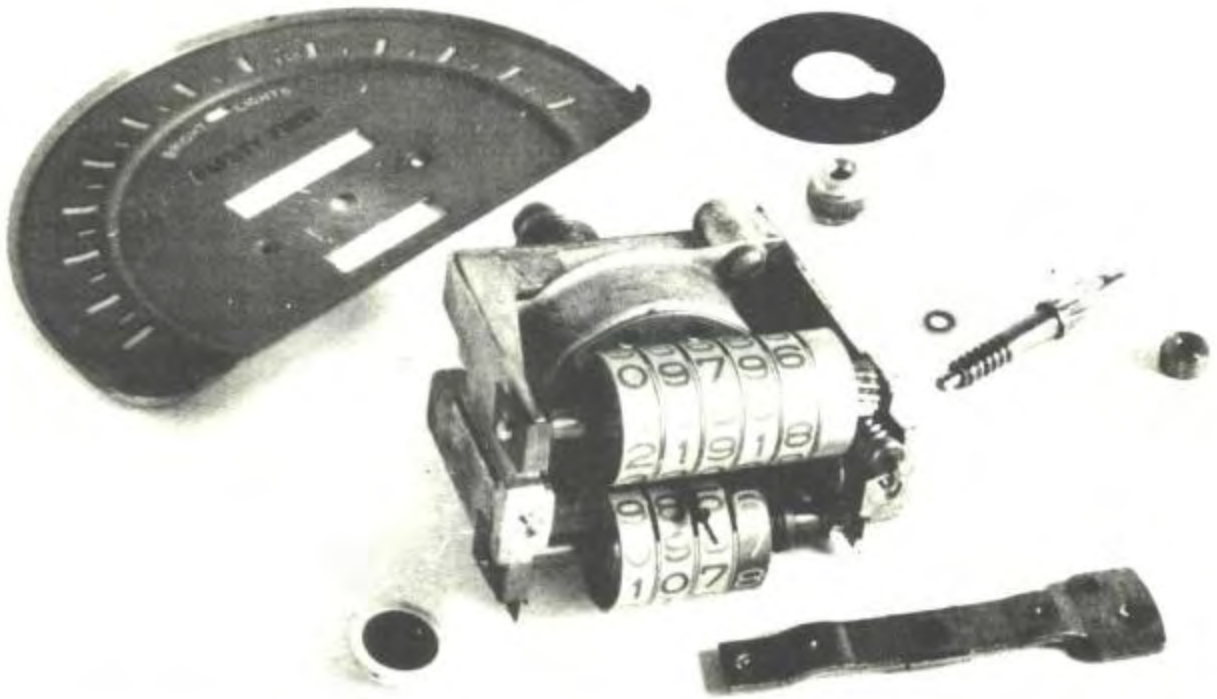
Last winter, while driving in below-freezing temperatures, noise and vibrations developed in the speedometer on my '38 Century. I had cleaned and lubricated the cable a few months earlier, and decided the problem must thus be in the speedometer unit itself. So I decided to remove the unit for a thorough cleaning in the hope that this would cure the problem. The photos show that this is not as difficult as one might think.

First, disconnect the battery. This is always a good idea when working behind the dash, and in this case is necessary because of the illuminating lights and the high beam indicator which are part of the speedo unit. Remove these light sockets and the drive cable and then the three mounting screws. Once the unit is removed from the dash, it can be transferred to a clean work area.

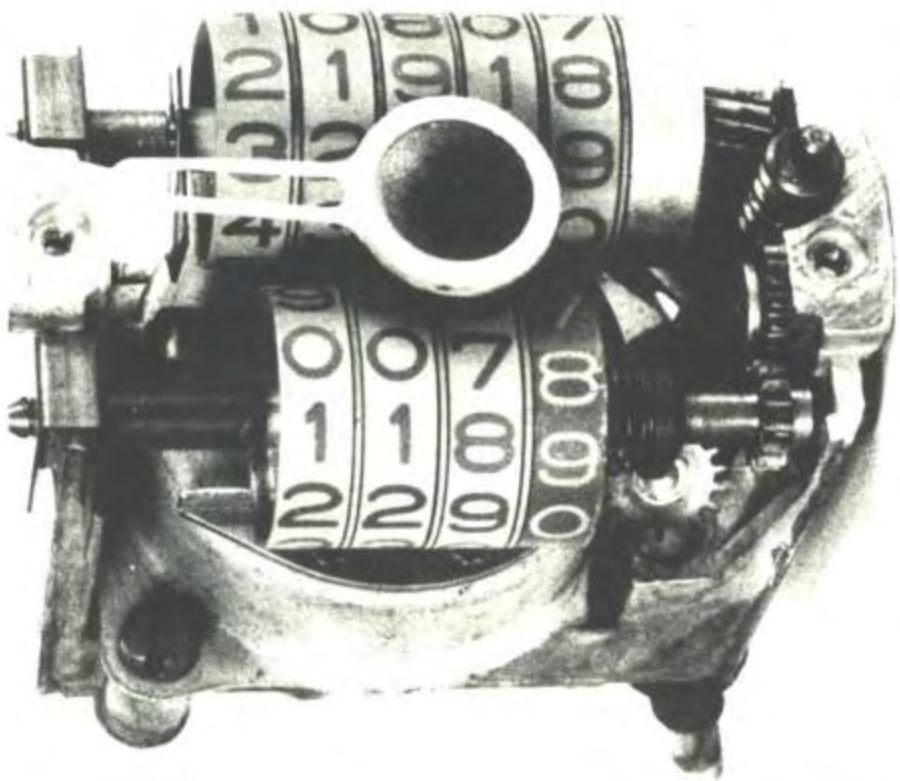


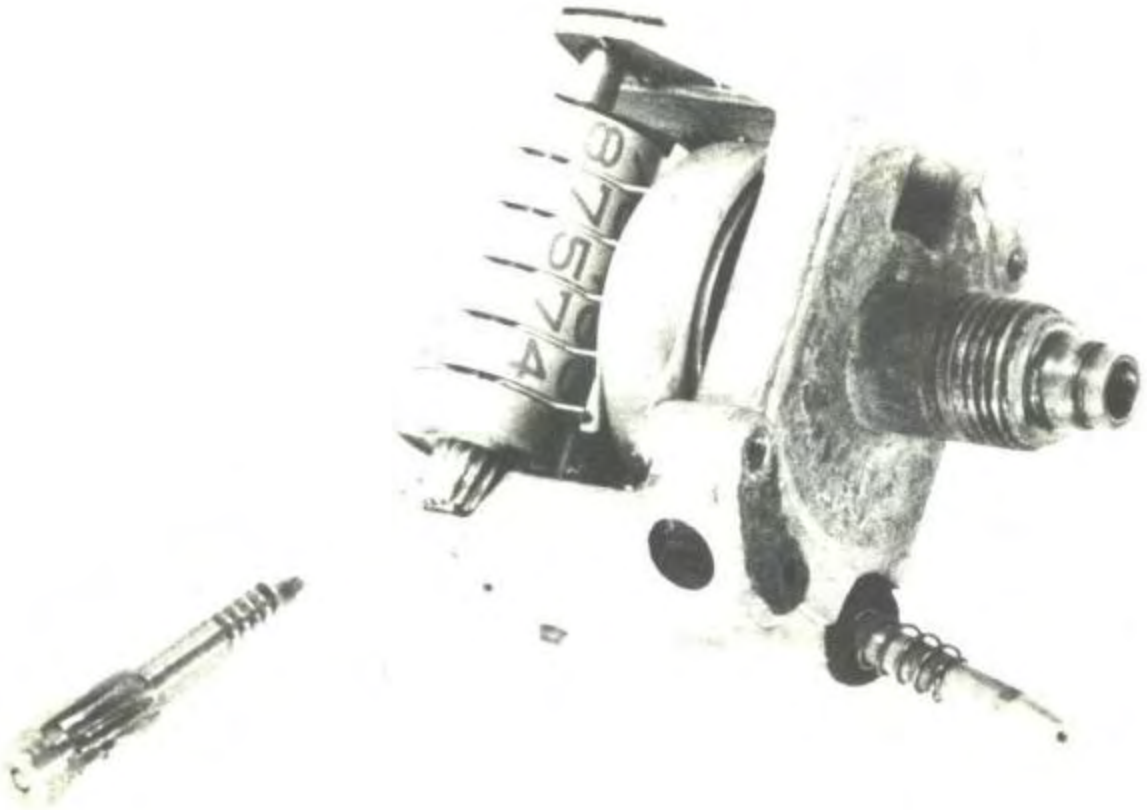
Remove the two screws from the housing and the flathead screw from the trip odometer reset knob. To effectively clean and lubricate the gears we must also remove the two screws securing the face panel and pointer.

Cleaning out the old contaminated grease is most important. This will insure a thorough repair.



The double-ended shaft shown in the photo must be removed by use of a small drift punch. Once cleaned and lubricated it may be reinstalled by driving back into position. Not much pressure is required. The spindle support shaft for the pointer is secured by two mounting screws; remove this and you have access to the gears.





The gears may be cleaned with kerosene and/or picking out the old grease. Do not use a solvent that might damage the number wheels. It is not necessary to remove the gears or the number cylinders. Just keep gravity in mind when cleaning so as not to create extra work.

Replace all the parts in reverse order and clean the inside of the glass before replacing the unit.

This little project took care of all my speedometer troubles. When a problem like this is caught early, it may well save the car owner much time and money later.

★ ★ ★ ★ ★

EDITOR'S NOTE. *Many thanks to Paul for another great photo-essay on a subject that has received little attention. Paul is obviously someone who is not quick to throw things away. Among the photos was one I did not print; it shows the materials used, including a dented one quart can marked in typical U.S. Government style: "Oil, lubricating, for aircraft instruments and machine guns" and "Date of manufacture May 1943." An authentic relic of World War II that lives on with new and peaceful uses! Those members with more serious speedometer problems may wish to try the services of a firm in Columbus, Ohio that specializes in speedometer repair for cars old and new.*

Foreign Speedometer Service
3061 Morse Road
Columbus, Ohio 43229
614/475-2511

Despite the name, their expertise is not limited to imported cars, but apparently that's how it got started.

Support Our ADVERTISERS

Support Our ADVERTISERS

VOLUNTEER NEEDED

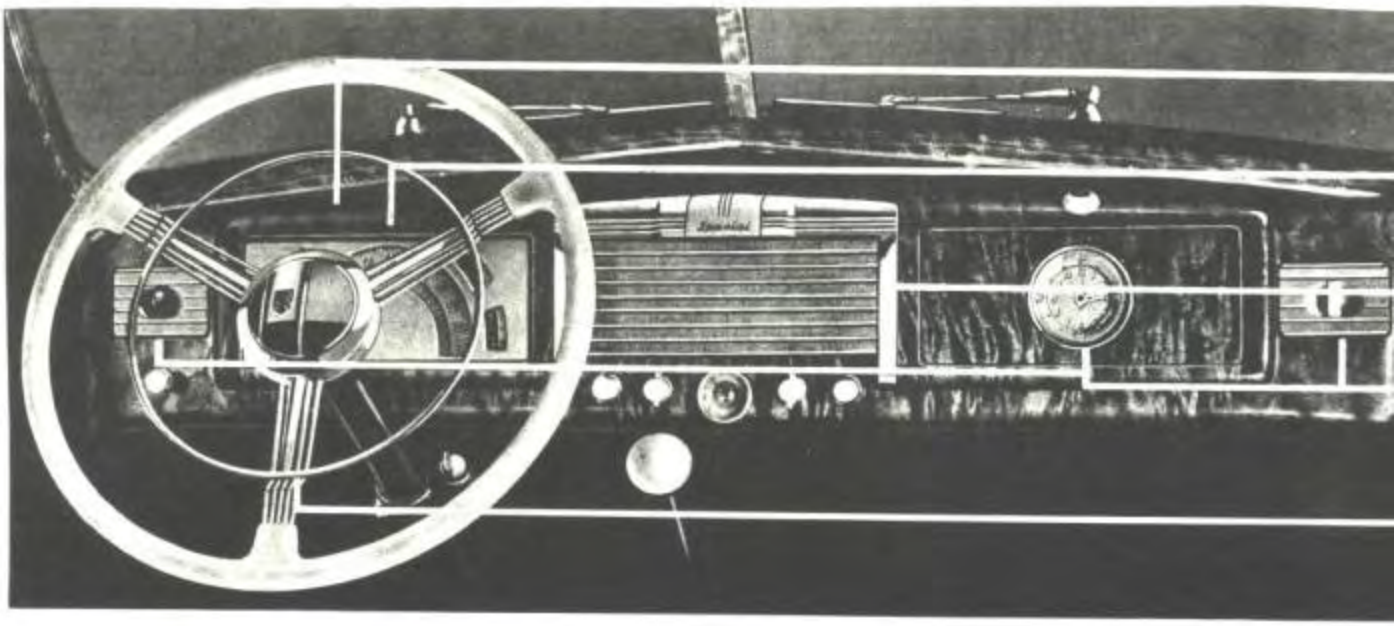
The Editor would like a volunteer to assume the position of Advertising Flunky -- I mean, Advertising Manager. That is to say, someone who will contact and work with commercial advertisers. This is not a big job, but I do not have the time to do much with it. The publication, I believe, needs more ads for quality products that members can really use.

MORE VOLUNTEERS NEEDED

It seems a safe bet that the great majority of our members are men, and most of these married men. I know that some wives are into the hobby pretty heavily, right along with their husbands, and I also know there are some who have been caught reading this rag. Maybe a lot do. Maybe even more would if the ladies had a greater hand in TORQUE TUBE content. Okay, wives who are reading this, what about it? Can you send in some stuff that you would like to see in print? Or at least suggest some ideas? Let's hear from you. (Men: if you think this idea absolutely stinks, I think you should keep quiet about that.)

Bill

Dash and Molding Patterns



A RECAPITULATION

Since it appears that no more information is likely to come in soon respecting dash and garnish molding patterns, this seems a good time to summarize what we have developed in the past year.

First, however, some very interesting information reported to me by Ed DePouli (#310) of Demarest, NJ. You may recall that several issues back we ran a letter from Lou Wildt (#245; Cincinnati, OH) describing the woodgraining equipment used by Bernie Estes of Sarasota, Florida; this comes as close as anything I've heard about to the process probably used originally. Ed says he was told by Mr. Estes that on 1937 40 (and probably 60) series cars, <u>two</u> <u>different</u> base colors were used. If the upholstery was taupe, the base coat over which the grain pattern was applied was "rose beige." If grey, the base coat was a greyish color. This makes a lot of sense, and explains why different people have reported that aged dash panels have assumed different tones. This is important information, to be followed if one desires the highest degree of authenticity.

<u>Summary of Woodgrain Information to Date</u>

<u>1937</u>

<u>40 Series</u> -

Dash - walnut horizontal grain with "mottle" figure.

Moldings - walnut, straight grain following molding.

<u>60-Series</u> -

Dash - probably same as 40, but may omit the "mottle."

Moldings - same as 40.

80 & 90 Series -

Dash - two raised panels are mahogany or walnut burl; remainder of panel is painted "fawn" or goldish, greyish, tan color.

Moldings - these varied depending upon the upholstery: see table below.

Model(s)	Upholstery	Moldings
81	Tan; Taupe	Mahogany or Grey
	Grey	Black
	Tan leather	Mahogany
	All other leather	Black
81F	Tan; Taupe	Mahogany
	Grey	Black
	Tan leather	Mahogany
	All other leather	Black
90, 91	Tan	Mahogany or Grey
	Grey	Black
	Tan leather	Mahogany
	All other leather	Black
91F, 90L	Tan	Mahogany
	Grey	Black
	Tan leather	Mahogany
	All other leather	Black

NOTE: All convertible models have chrome moldings.

1938

40 Series -

Dash - walnut "flame" figure.

Moldings - walnut straight grain with "swirl" or "mottle" effect.

60 Series -

Dash - walnut or mahogany horizontal grain, or golden tan paint with "chevron" pattern on raised panels.

Moldings - walnut or mahogany straight grain with "swirl" or "mottle" effect (alternating lighter and darker color).

80 & 90 Series -

Dash - probably same as 60 series.

Moldings - walnut or mahogany straight grain, with burl figure insert set off by gold stripes.

NOTE: All convertibles had chrome moldings.

Well, there you have it, folks: all we know now about dashboard and molding patterns. I have the distinct feeling that there is more to be learned.

In particular, I suspect that in 1937 80 and 90 series cars, where black moldings were used the dash may also have been black except for the "burl" panel. It does not seem to me that the "fawn" color and black would have looked well together.

Bill

MYSTERY ITEM

Jeff Morris (#108) and Your Editor found the gadget pictured here mounted on the firewall of the parts car Jeff has been dismantling. It has one outlet that appears to have been for a vacuum line, and the left-hand knob controls a needle valve. The plastic cylinder has a filter of some kind at the bottom and may be filled from the top. Lettering was indistinct but I think it said something like "KNOX" (may be wrong on that). Can anyone identify? I think it's a top cylinder oiler, the oil being sucked into the manifold by vacuum.

SHOWING THE FLAG

The photo shows how Paul Culp (#508) of Perkasie, PA decided to display the Club decal. Paul made a little gizmo out of white styrene and applied the decal to it. The gizmo (what would you call it?) is then attached to one's license plate. Styrene is easily cut with shears or an X-Acto knife or, if you have one, a jeweler's saw, and may be purchased at most hobby shops. Or, you could use aluminum.

PARTS

PARTS FOR SALE

38/60 left & right fenders	$50 each
38/60 Hood	$100
38/60 Trunk lid	$25
38/60 brackets for trunk shelf & misc. parts	$30
38/60 trunk 5-wheel rubber shelf mat	$25
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37/60 front bumper pitted but straight	$25
37/60 firewall throttle linkage	$25
37 Headlight bucket rt. side	$20
37/38 small series spark plug cover	$35
37/38 left side sidemount tire cover(no logo)	$35
37/40or60 complete stainless steel moulding (missing cowl sections)	$75

Write needs with S.A.S.E.
Add shipping to all prices.
PAUL B. CULP, Jr. (#508)
RR#2, Box 411, Perkasie, Pa. 18944
res. 215/249-3166 bus. 249-9163

FOR SALE

1937/1938 bumper bolts--
100% stainless reproduction--
not chrome plated.
Only 8 left.
$7.00 each delivered.

Heater hose bracket reproduction--holds hoses off engine.
$6.00 each plus shipping.

E.A. DEPOULI (#310)
119 Hardenburgh Ave,
Demarest, NJ 07627

PARTS WANTED

WANTED

1937 grille guard.

KEITH MOSER (#516)
9398 MacDuff Ct.
Roseville, CA 95678
916/791-7171

WANTED

NOS or mint wiper transmission for '38 Roadmaster.

E.A. DEPOULI (#310)
119 Hardenburgh Ave.
Demarest, NJ 07627

Also Wanted: YOUR AD!

Where Is It